

REMARKS

Upon entry of the present amendment, claims 1-32 will be pending in the application. Claims 1, 5, 6, 10, 11, 15, 16, 20, 21 and 25-27 will have been amended. Claims 28-32 will have been newly added. Entry of the present amendment, as well as reconsideration of the rejection and allowance of the pending application in view of the following remarks are respectfully requested.

The present invention is related to a data storage medium for recording and reproducing a file managed using a volume/file structure in which a number of data recording operations to a same area is limited. The file includes start address information for an unrecorded area existing in a volume space. The unrecorded area is used for updating root directory file management information when a new file is recorded on the data storage medium (claims 1, 6, 11, 21).

The file also includes invalid extent management information for managing an invalid data recording area. The invalid extent management information is recorded in a volume space as part of root directory file management information (claims 3, 8, 13, 18, 23).

The file also includes root directory file management information that is plurally recorded as main chaining information and reserve chaining information. The reserve chaining information is a duplicate of the main chaining information (claims 5, 10, 15, 20, 25-27).

In the Final Office Action of January 6, 2005, the Examiner rejected claims 1, 2, 6, 7, 11, 12, 21 and 22 under 35 U.S.C. §103(a) as being unpatentable over

Van Maren et al. (U.S. Patent No. 5,579,516) in view of Okuda (U.S. Patent No. 5,740,445). Applicants respectfully traverse the rejection for at least the following reasons.

Claims 1, 6, 11 and 21 of the present invention recite, inter alia, that the unrecorded area for which start address information is recorded is used for updating root directory file management information when a new file is recorded on the data storage medium. Applicants respectfully submit that Van Maren and Okuda do not disclose at least this feature.

Van Maren is directed to a method for writing meta-data and data to an optical disk. According to the method, file directories are built and written to disk. Each directory includes an ICB address. Following the writing of the directories, ICBs are built and written to disk in space that has been pre-allocated for them. See col. 4, line 63 to col. 5 line 1, and col. 5, line 62 to col. 6, line 52. However, Van Maren does not disclose or suggest that the portion of the disk space where the ICBs are written is used for updating root directory file management information when a new file is recorded on the recording medium.

Okuda is directed to a method for managing a directory in an information processing apparatus. In the Final Office Action, the Examiner cited Okuda because it discloses the use of a start address of a root directory. However, Okuda also fails to teach or suggest a file including start address information for an unrecorded area existing in a volume space, where the unrecorded area is used for updating root directory file management information when a new file is recorded

on a data storage medium.

Therefore, Applicants respectfully submit that the proposed combination of Van Maren and Okuda fails to teach each and every feature of claims 1, 6, 11 and 21, and that the rejection of claims 1, 6, 11 and 21 is improper. Thus, Applicants respectfully request withdrawal of the rejection. Dependent claims 2, 7, 12 and 22 are also submitted to be in condition for allowance at least in view of their dependence on claims 1, 6, 11 and 21.

In the Final Office Action, the Examiner also rejected claims 3, 4, 8, 9, 13, 14, 18, 19, 23 and 24 under 35 U.S.C. §103(a) as being unpatentable over Leonhardt et al. (U.S. Patent No. 5,485,321) in view of Okuda. Applicants respectfully traverse the rejection for at least the following reasons.

Claims 3, 8, 13, 18 and 23 of the present invention recite that the invalid extent management information is recorded in a volume space as part of root directory file management information. Applicants respectfully submit that Leonhardt and Okuda do not disclose this feature.

Leonhardt is directed towards a method for storing data on a magnetic tape. Leonhardt discloses that certain collections of data blocks included on a magnetic tape are designated as Not Valid (or invalid) data. See col. 20, line 65 to col. 21, line 9. Leonhardt also discloses that a header maintains a list of data blocks and a designation as to whether each is invalid. See col. 21, lines 56-67. However, Leonhardt does not disclose or suggest that the header is recorded in a volume space as part of root directory file management information.

Okuda also fails to teach or suggest a file including invalid extent management information for managing an invalid data recording area, where the invalid extent management information is recorded in a volume space as part of root directory file management information. Therefore, Applicants respectfully submit that the proposed combination of Leonhardt and Okuda fails to teach each and every feature of claims 3, 8, 13, 18 and 23. Thus, Applicants respectfully request withdrawal of the rejection. Dependent claims 4, 9, 14, 19 and 24 are also submitted to be in condition for allowance at least in view of their dependence on claims 3, 8, 13, 18 and 23.

In the Final Office Action, the Examiner also rejected claims 5, 10, 15, 20 and 25-27 under 35 U.S.C. §102(a) or 102(b) as being anticipated by Caffarelli (European Patent Application No. EP 0730274 A2). Applicants respectfully traverse the rejection for at least the following reasons.

Claims 5, 10, 15, 20 and 25-27 recite, inter alia, that the reserve chaining information is a duplicate of the main chaining information, the main chaining information and reserve chaining information are recorded at a beginning of a volume space at a first address, and the main chaining information and reserve chaining information is update recorded at a second address. Applicants respectfully submit that Caffarelli fails to disclose this combination of features.

Caffarelli is directed to a compact disc recording system and method. First of all, the Examiner does not clearly explain how he believes Caffarelli reads on the claimed features. However, the Examiner does indicate that he believes

Applicants' claimed reserve chaining information reads on attribute flag bits 480 and 505 in Fig. 10 of Caffarelli. Applicants respectfully disagree.

Caffarelli discloses, in col. 13, lines 47-50, that attribute field 445 identifies attributes of a corresponding file or directory by the states of corresponding flag bits. Caffarelli discloses, in col. 14, lines 6-8, that attribute flag bits 480 and 505, may be reserved for the later addition of other attributes. However, Caffarelli does not disclose that root directory file information is plurally recorded as main chaining information and reserve chaining information, the reserve chaining information being a duplicate of the main chaining information, much less disclose that the main chaining information and reserve chaining information is recorded at a first address at the beginning of a volume space, and at a second address where the main chaining information and reserve chaining information is update recorded.

For at least these reasons, Applicants submit that the rejection is improper, and respectfully request withdrawal thereof.

Based on the above, it is respectfully submitted that this application is now in condition for allowance, and a Notice of Allowance is respectfully requested.

Applicants note that the status of the application is after final, and recognize that Applicants do not have a right to amend after a final rejection. Nevertheless, Applicants submit that under 37 C.F.R. § 1.116 entry of the present amendment is appropriate since it places the application into condition for allowance.

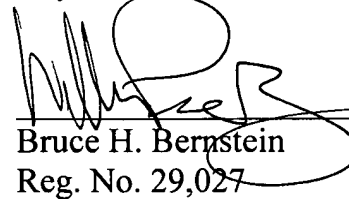
SUMMARY AND CONCLUSION

Entry and consideration of the present amendment, reconsideration of the outstanding Office Action, and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate.

Applicant has made a sincere effort to place the present invention in condition for allowance and believes that he has now done so.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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